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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,379	05/24/2001	Jay M. Short	DIVER1370-7	4596

20985 7590 08/13/2002

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EXAMINER

RAMIREZ, DELIA M

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 08/13/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,379

Applicant(s)

SHORT ET AL.

Examiner

Delia M. Ramirez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-90 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Status of the Application

Claims 1-90 are pending.

It is noted that claim 60 refers to the polypeptide of claim 15, however the subject matter of claim 15 is not a polypeptide. It will be assumed that claim 60 refers to the polypeptide of claim 59 for restriction purposes. If this assumption is incorrect, claim 60 will be placed in the appropriate group accordingly. Correction and/or clarification is required.

It is noted that claim 65 refers to the polypeptide of SEQ ID NO: 9, however according to the sequence listing, SEQ ID NO: 9 represents a polynucleotide. It will be assumed that claim 65 refers to the polypeptide of SEQ ID NO: 10 for restriction purposes. If this assumption is incorrect, claim 65 will be placed in the appropriate group accordingly. Correction and/or clarification is required.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-5, drawn to a method for improving the nutritional value of foodstuff using the polypeptide of SEQ ID NO: 2, classified in class 435, subclass 196.
 - II. Claims 6-16, drawn to an expression system comprising the polynucleotide encoding the polypeptide of SEQ ID NO: 2 and host cells comprising said expression system, classified in class 435, subclass 320.1.
 - III. Claims 17-19, drawn to a transgenic plant and plant parts comprising the nucleic acid of SEQ ID NO: 1 and a method of use, classified in class 800, subclass 29.5.

- IV. Claim 20, drawn to a method of treatment using the polypeptide of SEQ ID NO: 2, classified in class 424, subclass 94.6.
- V. Claim 21, drawn to a transgenic non-human organism comprising the polynucleotide of SEQ ID NO: 1, classified in class 800, subclass 8.
- VI. Claims 22-33, drawn to a method of generating variants of the polynucleotide of SEQ ID NO: 1, classified in class 435, subclass 440.
- VII. Claim 34, drawn to a computer readable medium having stored the sequence set forth in SEQ ID NO: 1 and SEQ ID NO: 2, classified in class 711, subclass 4.
- VIII. Claims 35-38, drawn to a computer system comprising a storage device wherein the sequences set forth in SEQ ID NO: 1 and 2 are stored, classified in class 717, subclass 11.
- IX. Claims 39-40, drawn to a method for comparing sequences using the sequences set forth in SEQ ID NO: 1 and 2, classified in class 707, subclass 3.
- X. Claims 41-42, 45-53, drawn in part to the polynucleotide of SEQ ID NO: 7, vectors and host cells comprising said polynucleotide, classified in class 536, subclass 23.2.
- XI. Claims 43-44, 47-53, drawn in part to the polynucleotide of SEQ ID NO: 9, vectors, and host cells comprising said polynucleotide, classified in class 536, subclass 23.2.
- XII. Claims 54-58, drawn to the polypeptide of SEQ ID NO: 8, classified in class 435, subclass 196.

- XIII. Claim 59, drawn to the polypeptide of SEQ ID NO: 10, classified in class 435, subclass 196.
- XIV. Claims 60-64, drawn in part to a method for improving the nutritional value of foodstuff using the polypeptide of SEQ ID NO: 10, classified in class 435, subclass 196.
- XV. Claim 61, drawn in part to a method for improving the nutritional value of foodstuff using the polypeptide of SEQ ID NO: 8, classified in class 435, subclass 196.
- XVI. Claims 65-75, drawn to an expression system comprising the polynucleotide encoding the polypeptide of SEQ ID NO: 10 and host cells comprising said expression system, classified in class 435, subclass 320.1.
- XVII. Claims 76-78, drawn to a transgenic plant and plant parts comprising the nucleic acid of SEQ ID NO: 9 and a method of use, classified in class 800, subclass 29.5.
- XVIII. Claims 79-90, drawn to a method of generating variants of the polynucleotide of SEQ ID NO: 9, classified in class 435, subclass 440.

The inventions are distinct, each from the other because of the following reasons:

- 2. Groups II, III, V, X-XIII, and XVI-XVII each comprise a chemically unrelated structure capable of separate manufacture, use, and effect. The expression vectors in Groups II, XVI and the polynucleotides of Group X-XI comprise different nucleic acids, the transgenic plant in Group III and non-human organism in Group V are multicellular organisms whereas the proteins of Group XII and XIII each comprise an unrelated amino acid sequences. The nucleic acids have other uses besides encoding the proteins of SEQ ID NO: 2, 8 (Group XII), or 10 (Groups XIII)

or being introduced in the transgenic plant or non-human organisms of Group III, V, or XVII such as hybridization probes or in gene therapy. The transgenic non-human organism of Group V can have other uses such as in vivo testing besides manufacturing the protein of SEQ ID NO:

2. The proteins from Groups XII and XIII can be used in therapeutic or diagnostic methods (e.g. in screening) or to raise antibodies. Further, the proteins of Group XII and XIII can be prepared by processes which are materially different from recombinant DNA expression of Groups X, XI, or XVI or expression in the transgenic plant of Group XVII, such as by chemical synthesis, or by isolation and purification from natural sources.

3. Inventions II, I and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the expression vectors and host cells of Invention II can be used in a method for recombinantly producing the protein of SEQ ID NO: 2 as well as in the methods of Inventions I or IV.

4. Inventions X and XV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the polynucleotide of Invention X can be used in a method for recombinantly producing the protein of SEQ ID NO: 8 as well as in the method of Invention XV.

5. Inventions XI and XIV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the polynucleotide of Invention XI can be used in a method for recombinantly producing the polypeptide of SEQ ID NO: 10 as well as in the method of Invention XIV.
6. Inventions II, VI, IX, XIV, XV and XVIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the vectors and host cells comprising the nucleic acid molecule encoding the polypeptide of SEQ ID NO: 2 are neither made nor used by the methods of Inventions VI, IX, XIV, XV, or XVIII.
7. Inventions II, VII, VIII, X, XI, XII, XIII, XVI, and XVII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the expression vectors and host cells of Invention II and the products of Inventions VII, VIII, X, XI, XII, XIII, XVI, and XVII either comprise different nucleic acids, are different chemically, physically or functionally, are used in different methods, are not required one for the other, or have different uses and effects.
8. Inventions XVI and I, IV, VI, IX, XVIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

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operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the vectors and host cells of Invention XVI comprising the nucleic acid molecule encoding the polypeptide of SEQ ID NO: 10 are neither used nor made by the methods of Inventions I, IV, VI, IX, XVIII.

9. Inventions I and VI, IX, XIV, XV, XVIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different methods of inventions I and VI, IX, XIV, XV, XVIII are not disclosed as capable of use together, use different products, comprise different steps, and produce different results.

10. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, as shown by their different classification, restriction for examination purposes as indicated is proper.

11. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement can be traversed (37 CFR 1.143).

12. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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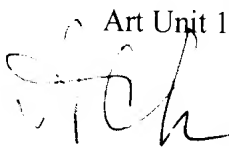
13. Applicants are requested to submit a clean copy of the pending claims (including amendments, if any) in future written communications to aid in the examination of this application.

14. Certain papers related to this application may be submitted to Art Unit 1652 by facsimile transmission. The FAX number is (703) 308-4556. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If Applicant submits a paper by FAX, the original copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (703) 306-0288. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (703) 308-3804. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652



DR
July 29, 2002